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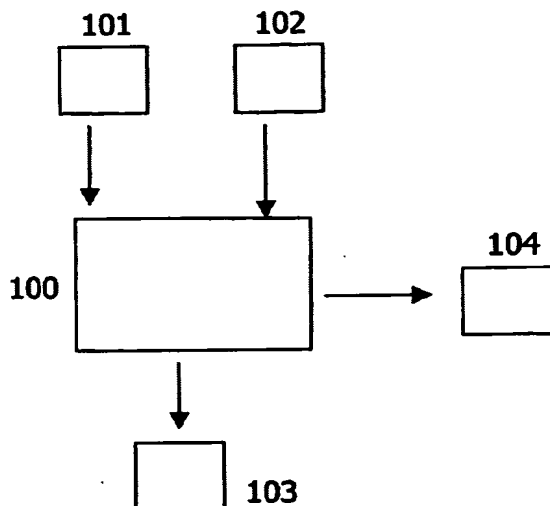
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(54) Title: METHOD AND DEVICE FOR EFFICIENT MULTIPARTY MULTIPLICATION



(57) **Abstract:** The invention introduces, in the framework of secure multiparty computation based on homomorphic threshold cryptosystems, a protocol and a special type of multiplication gate that can be realized in a surprisingly simple and efficient way using just standard homomorphic threshold ElGamal encryption. As addition gates are essentially for free, the conditional gate not only allows for building a circuit for any function, but actually yields efficient circuits for a wide range of tasks.